

EXHIBIT 1

ClustalW2--HTX18 pat seqa.txt

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Results of search
 Number of sequences11
 Alignment score64595
 Sequence formatPearson
 Sequence typeaa
 Jalview
 Output fileclustalw2-20080418-16010091.output
 Alignment fileclustalw2-20080418-16010091.aln
 Guide tree fileclustalw2-20080418-16010091.dnd
 Your input fileclustalw2-20080418-16010091.input

To save a result file right-click the file link in the above table and choose "Save Target As".
 If you cannot see the Jalview button, reload the page and check your browser settings to enable Java Applets.

Scores Table

Alignment Score Sequence Number Sequence Name Sequence Length

SeqA Name	Len(aa)	SeqB Name	Len(aa)	Score
1 TrX	190	2 TrX116G	190	99
1 TrX	190	3 TrX118C	190	99
1 TrX	190	4 TrXHMLAHAE144R	190	95
1 TrX	190	5 TrXHMLAHAE144R161R	190	95
1 TrX	190	6 TrXHMLAHAE116G144R	190	95
1 TrX	190	7 TrXHMLAHAE118C144R	190	95
1 TrX	190	8 TrXH11DMLAHAE144R161R	190	94
1 TrX	190	9 TrXH11DMLAHAE116G144R161R	190	94
1 TrX	190	10 TrXH11DMLAHAE118C144R161R	190	94
1 TrX	190	11 TrXH11DMLAHAE116G118C144R161R	190	93
2 TrX116G	190	3 TrX118C	190	98
2 TrX116G	190	4 TrXHMLAHAE144R	190	95
2 TrX116G	190	5 TrXHMLAHAE144R161R	190	94
2 TrX116G	190	6 TrXHMLAHAE116G144R	190	95
2 TrX116G	190	7 TrXHMLAHAE118C144R	190	94
2 TrX116G	190	8 TrXH11DMLAHAE144R161R	190	94
2 TrX116G	190	9 TrXH11DMLAHAE116G144R161R	190	94
2 TrX116G	190	10 TrXH11DMLAHAE118C144R161R	190	93
2 TrX116G	190	11 TrXH11DMLAHAE116G118C144R161R	190	94
3 TrX118C	190	4 TrXHMLAHAE144R	190	95
3 TrX118C	190	5 TrXHMLAHAE144R161R	190	94
3 TrX118C	190	6 TrXHMLAHAE116G144R	190	94
3 TrX118C	190	7 TrXHMLAHAE118C144R	190	95
3 TrX118C	190	8 TrXH11DMLAHAE144R161R	190	94
3 TrX118C	190	9 TrXH11DMLAHAE116G144R161R	190	93
3 TrX118C	190	10 TrXH11DMLAHAE118C144R161R	190	94
3 TrX118C	190	11 TrXH11DMLAHAE116G118C144R161R	190	94
4 TrXHMLAHAE144R	190	5 TrXHMLAHAE144R161R	190	99
4 TrXHMLAHAE144R	190	6 TrXHMLAHAE116G144R	190	99
4 TrXHMLAHAE144R	190	7 TrXHMLAHAE118C144R	190	99
4 TrXHMLAHAE144R	190	8 TrXH11DMLAHAE144R161R	190	98
4 TrXHMLAHAE144R	190	9 TrXH11DMLAHAE116G144R161R	190	98
4 TrXHMLAHAE144R	190	10 TrXH11DMLAHAE118C144R161R	190	98
4 TrXHMLAHAE144R	190	11 TrXH11DMLAHAE116G118C144R161R	190	97
5 TrXHMLAHAE144R161R	190	6 TrXHMLAHAE116G144R	190	98
5 TrXHMLAHAE144R161R	190	7 TrXHMLAHAE118C144R	190	98
5 TrXHMLAHAE144R161R	190	8 TrXH11DMLAHAE144R161R	190	99

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5	TrXHMLAHAE144R161R	190	9	TrXH11DMLAHAE116G144R161R	190	98
5	TrXHMLAHAE144R161R	190	10	TrXH11DMLAHAE118C144R161R	190	98
5	TrXHMLAHAE144R161R	190	11	TrXH11DMLAHAE116G118C144R161R	190	98
6	TrXHMLAHAE116G144R	190	7	TrXHMLAHAE118C144R	190	98
6	TrXHMLAHAE116G144R	190	8	TrXH11DMLAHAE144R161R	190	98
6	TrXHMLAHAE116G144R	190	9	TrXH11DMLAHAE116G144R161R	190	98
6	TrXHMLAHAE116G144R	190	10	TrXH11DMLAHAE118C144R161R	190	97
6	TrXHMLAHAE116G144R	190	11	TrXH11DMLAHAE116G118C144R161R	190	98
7	TrXHMLAHAE118C144R	190	8	TrXH11DMLAHAE144R161R	190	98
7	TrXHMLAHAE118C144R	190	9	TrXH11DMLAHAE116G144R161R	190	97
7	TrXHMLAHAE118C144R	190	10	TrXH11DMLAHAE118C144R161R	190	98
7	TrXHMLAHAE118C144R	190	11	TrXH11DMLAHAE116G118C144R161R	190	98
8	TrXH11DMLAHAE144R161R	190	9	TrXH11DMLAHAE116G144R161R	190	99
8	TrXH11DMLAHAE144R161R	190	10	TrXH11DMLAHAE118C144R161R	190	99
8	TrXH11DMLAHAE144R161R	190	11	TrXH11DMLAHAE116G118C144R161R	190	98
9	TrXH11DMLAHAE116G144R161R	190	10	TrXH11DMLAHAE118C144R161R	190	98
9	TrXH11DMLAHAE116G144R161R	190	11	TrXH11DMLAHAE116G118C144R161R	190	99
10	TrXH11DMLAHAE118C144R161R	190	11	TrXH11DMLAHAE116G118C144R161R	190	99

NOTE: Some scores may be missing from the above table if the alignment was done using multiple CPU mode. Please check the output.

Alignment	Score	Sequence	Number	Sequence	Name	Sequence
CLUSTAL 2.0.5 multiple sequence alignment						
TrXHMLAHAE144R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXHMLAHAE116G144R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXH11DMLAHAE116G144R161R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXH11DMLAHAE116G118C144R161R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXH11DMLAHAE118C144R161R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXH11DMLAHAE144R161R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXHMLAHAE144R161R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrXHMLAHAE118C144R	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrX	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrX116G	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
TrX118C	50	QTIQPGTGYHNGYFYSYWN	50	QTIQPGTGYHNGYFYSYWN	DGHGGVTMTLGP	GGQFVS
*****:***** * *****						
TrXHMLAHAE144R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXHMLAHAE116G144R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXH11DMLAHAE116G144R161R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXH11DMLAHAE116G118C144R161R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXH11DMLAHAE118C144R161R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXH11DMLAHAE144R161R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXHMLAHAE144R161R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrXHMLAHAE118C144R	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrX	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrX116G	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
TrX118C	100	WQPGTKNKVINFGSYNPN	100	WQPGTKNKVINFGSYNPN	GNLSYLVYGS	RNPLIEYYIVENFGTYNPST
*****:***** * *****						
TrXHMLAHAE144R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXHMLAHAE116G144R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXH11DMLAHAE116G144R161R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXH11DMLAHAE116G118C144R161R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXH11DMLAHAE118C144R161R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXH11DMLAHAE144R161R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXHMLAHAE144R161R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrXHMLAHAE118C144R	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrX	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrX116G	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
TrX118C	150	GATKHGEVTS	150	GATKHGEVTS	SDGSVYDIYRTQ	RVNAPSIEGTATFYQYWSVRRNRSSGSV
*****:***** * *****						
TrXHMLAHAE144R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS
TrXHMLAHAE116G144R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS
TrXH11DMLAHAE116G144R161R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS
TrXH11DMLAHAE116G118C144R161R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS
TrXH11DMLAHAE118C144R161R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS
TrXH11DMLAHAE144R161R	190	NTANHFNAWAQ	190	NTANHFNAWAQ	QGLTLGTM	DYQIVAVEGYFSSGSASITVS

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TrXHMLAHAE144R161R           NTANHFNAWAQQGLTLGTMDYQIVAVEGYFSSGSASITVS 190
TrXHMLAHAE118C144R           NTANHFNAWAQQGLTLGTMDYQIVAVEGYFSSGSASITVS 190
TrX                           NTANHFNAWAQQGLTLGTMDYQIVAVEGYFSSGSASITVS 190
TrX116G                       NTANHFNAWAQQGLTLGTMDYQIVAVEGYFSSGSASITVS 190
TrX118C                       NTANHFNAWAQQGLTLGTMDYQIVAVEGYFSSGSASITVS 190
                                *****

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PLEASE NOTE: Showing colors on large alignments is slow.

Guide Tree

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(
(
(
(
TrX:0.00175,
TrX116G:0.00351)
:0.00099,
TrX118C:0.00428)
:0.03914,
TrXHMLAHAE118C144R:0.00296)
:0.00181,
(
TrXHMLAHAE144R161R:0.00115,
(
TrXH11DMLAHAE144R161R:0.00184,
(
TrXH11DMLAHAE116G144R161R:0.00188,
TrXH11DMLAHAE116G118C144R161R:0.00338)
:0.00219,
TrXH11DMLAHAE118C144R161R:0.00307)
:0.00079)
:0.00411)
:0.00444)
:0.00016,
TrXHMLAHAE144R:0.00066,
TrXHMLAHAE116G144R:0.00461);

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Cladogram

Right-click on the above tree to see display options.
Problems printing? Read how to print a Phylogram or Cladogram.